(54) Title: METHOD FOR SPARSE NETWORK DEPLOYMENT ACCURACY ENHANCEMENTS
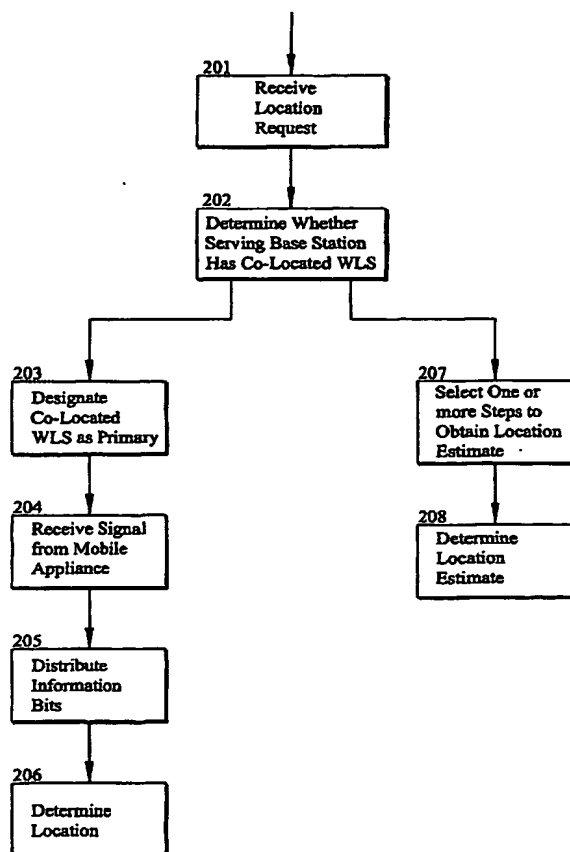
(57) Abstract: A method for use in a wireless communication sys-
tem with a network overlay geolocation system having a sparse
deployment network in which base stations of the wireless com-
munication system may or may not have a co-located wireless lo-
cation sensors (WLS) (202). The method enables detection and
measurement of a target mobile's signal (204) independently from
a primary WLS located at the base station serving the target mobile
(203), which enable location estimated in previous "no location"
areas. The method selects based on predetermined criteria from
one or more of several techniques that aid in the detection and de-
termining a location for the target mobile (207). The method se-
lects from timing advance, power levels, pattern matching, EOTD,
speed, and pseudo range measurements to estimate the location of
the mobile (208). The method also uses ambiguity function pro-
cessing to detect the signal and measure an attribute of the signal.

WO 2005/002124 A3

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

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INTERNATIONAL SEARCH REPORT

A.	CLASSIFICATION OF SUBJECT MATTER
IPC(7)	: H04Q 7/20
US CL	: 455/456.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 455/456.1, 456.2, 456.5, 456.6, 561

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,600,706 A (DUNN et al.) 04 February 1997 (04.02.1997); abstract, fig. 2	1-23
X	US 5,973,643 A (HAWKES et al.) 26 October 1999 (26.10.1999); fig. 1, abstract, col. 5: lines 18-25	1, 4
—		————
A		2-3, 5-23

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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		"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search	Date of mailing of the international search report
02 January 2005 (02.01.2005)	1 9 JAN 2005
Name and mailing address of the ISA/US	Authorized officer
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Form PCT/ISA/210 (second sheet) (July 1998)